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Dear Friends,

The disasters in the Gulf of Mexico are grim reminders of the devastating power of natural phenomena. They also offer important lessons on the value of preparation and preventive maintenance compared to the enormous cost of repair and restoration. The flood prevention systems in Holland and the Thames barriers in England reflect an enormous investment and a commitment to protecting their communities. The same kind of personal investment in health care would also yield enormous dividends.

Every time someone improves a health habit, they take a step in the direction of preventive maintenance. Eliminating sugar from the diet, reducing processed foods, white flour, and food additives, eliminating meat consumption, eating more fruits, vegetables, and fibers, getting regular exercise, controlling stress, taking dietary supplements, and participating in aesthetic activities, all go a long way to shoring up the defenses against chronic, degenerative, lethal diseases. These changes also help reduce the incidence of daily health problems that may not be lethal but reduce the quality of life, such as arthritis, indigestion, allergies, headaches, skin disorders, and more.

Unlike the preparations that might have been done in the Gulf, these health habit changes are not associated with enormous

costs. In fact, if someone eliminates much of the junky, processed foods that are so commonly consumed, the changes might be free (just eliminating coffee and doughnuts, candy, ice cream, and sodas, for examples, can save enough money to pay for your athletic shoes, health club membership, all of your supplements—and maybe doctors' visits to boot!) This does not mean eliminating the pleasures of life. I tell my patients that I do not believe in sacrificing pleasure for health, because people generally will not do that, and they do not have to, because healthy foods can be just as pleasurable as the customary consumption in developed countries.

While the devastation in the Gulf region is a catastrophic tragedy associated with enormous suffering, equal tragedies occur every day with the thousands of premature and preventable deaths that result from the unhealthy lifestyle choices that we have the power to change. This is not to make light of this disaster, or of the others around the world that cause the sudden and unexpected loss of lives, homes, and livelihoods. These affect us all, and call forth an outpouring of compassion. However, it is perhaps even more tragic that the thousands of lifestyle-related, preventable deaths are not at all unexpected. We can easily predict them by observing the way people choose to live, whether it is due to lack of awareness, advertising, social pressures, or lack of caring. I am encouraged whenever I see people making positive changes, and I believe that the message is getting across that prevention makes a real difference.

Strontium for Bones

Strontium is a mineral that is considered to be non-essential in the human diet. It occurs in food in small amounts depending on the soil content of the mineral. In the 1950s and 1960s, atmospheric nuclear testing released a large amount of radioactive strontium-90, contaminating the environment, and posing risks because it can act like calcium and deposit in bones and teeth. Non-radioactive strontium is quite safe even in very large doses.

Because non-radioactive strontium also deposits in bones and behaves like calcium, it can enhance bone density and resistance to osteoporotic fractures, but only when taken in doses that are significantly higher than the amount found naturally in the diet. As early as the 1950s, studies of strontium salts (such as lactate and gluconate) showed benefits to bones. Recent studies have confirmed that strontium helps with both prevention and reversal of osteoporosis, maintaining bone density and restoring it in people who already have some bone thinning.

In an article in 2001, strontium was reported to benefit bones in two ways, reducing the resorption of bone by osteoclasts (literally “bone-eating” cells) and by increasing formation of bone by osteoblasts (“bone-forming” cells). It was noted that it was effective in both normal animals and in those that already had bone loss.

In 2002, 160 early post-menopausal women were given a placebo, or 125, 500, or 1000 mg of strontium ranelate (containing 340 mg of elemental strontium per gram) for two years. They measured spinal and hip bone density and biochemical markers of bone turnover. Women on the highest dose had an overall increase in bone density of 2.4 percent relative to placebo. (In early post-menopausal women you would expect some bone loss over two years.)

Some confusion surrounds the correct source and dose of strontium for treating osteoporosis. A pharmaceutical company has patented a particular synthetic salt (ranelate) although other salts have been studied in the past, and are just as good as sources of strontium. The dose that the studies list is reported as up to two grams, but the actual elemental strontium is much less, because the ranelate salt makes up the bulk of

the weight. The elemental strontium in these studies is 340 mg per gram, which is easily available from other sources, such as citrate, gluconate, or lactate, and no evidence suggests that the ranelate itself is important.

In a 2002 report, 353 menopausal women were given 170, 340, or 680 mg of elemental strontium (as ranelate) for two years. These subjects had already had at least one vertebral fracture due to osteoporosis. At the highest dose, mean bone density increased by three percent per year, and abnormal vertebral deformities were cut in half. Markers of bone resorption were significantly reduced with this dose, and bone formation indicators were increased.

In a larger study reported in 2004, 1649 post-menopausal women with osteoporosis and at least one vertebral fracture were given a placebo or 680 mg of elemental strontium for three years. Within the first year, the risk of new fractures was cut in half, and at the end of three years the overall risk reduction was 41 percent. All subjects received calcium and vitamin D before and during the study, and at the end of three years, the strontium group had a 14.4 percent increase in vertebral bone mineral density and an 8 percent increase in femoral neck bone density.

In a study of 5091 postmenopausal women treated with the same dose for five years, all measures of bone density and fracture rate improved. Risk reduction was 36 percent in the high risk group and 45 percent in the lower risk group.

Total Bone Health

I recommend 680 mg of elemental strontium as citrate for the best absorption and fewest pills. It should all be taken at bedtime, separate from any calcium or food, as strontium may interfere with calcium absorption. However, strontium is not the only requirement for healthy bones. In most studies, subjects are also given calcium and vitamin D (I recommend 1000 IU or more).

In addition, it helps to have a low-sugar, moderate-protein diet, regular weight-bearing exercise, and supplements of magnesium, manganese, boron, ipriflavone, vitamins C and K, and possibly bio-identical hormones, such as progesterone, testosterone, and estrogens. This is a comprehensive approach to maintaining and restoring bone health.

Mental Activity and Alzheimer's

In a new study of 10,079 Swedish twins, researchers correlated the risk of developing dementia with the complexity of the work setting. Those people in more complex work situations, as measured by interaction with data, people, and things had a lower risk of developing Alzheimer's disease than their twin controls. It appeared that a complex interaction with people was the most significant protective activity.

Those people with more challenging interactions were over 20 percent less likely to have Alzheimer's than their twin counterparts with less challenging work settings. Other forms of dementia were also reduced but not as much. Previous studies have indicated that mental activity, such as reading, playing board games, playing music, and dancing are associated with a decreased dementia risk.

In addition, you can help protect brain function with high doses of antioxidants such as vitamin E and coenzyme Q10. It is also valuable to take supplements of alpha lipoic acid, acetyl L-carnitine, phosphatidyl serine, ginkgo biloba, vitamin C, turmeric extract (curcumin), flavonoids, and fish oil along with a diet rich in fruits, vegetables, and soy isoflavones.

Ask Dr. J

Q. What are the best supplements for promoting depth of sleep and preventing middle of the night awakening for oldsters?

SCR, via Email

A. Sleep disorders are very common, especially in the middle-aged and elderly. They can result from anxiety, stress, depression and other emotional problems, sedentary lifestyles, blood sugar disorders, obesity, jet lag, caffeine and alcohol consumption, many drugs, hormone imbalances, life and family situations, and many other causes. Insomnia can be difficulty falling asleep or waking in the middle of the night and not being able to go back to sleep.

Occasional sleep loss is not a serious problem, but chronic insomnia is associated with many health disorders. These include fatigue, depression, accidents, poor work performance, decreased alertness, mental confusion, heart disease, inflammation, lowered immunity, and more.

Lifestyle changes are very helpful in promoting restful sleep. Make sure your bedroom is peaceful, the mattress is comfortable, and block out all light. Get regular vigorous exercise during which you work up a sweat, but do this at least an hour or two before bedtime. Practice relaxation techniques, such as breathing exercises, yoga, meditation, or visualization. Eliminate caffeine, alcohol, sugar, and junk from your diet, and avoid any foods to which you might be allergic.

Melatonin, the pineal hormone that adjusts the biological clock is helpful in doses of 1-3 mg, 60-90 minutes before bed. Timed release melatonin might be better if you wake in the middle of the night. Supplements of 5-hydroxy tryptophan (a serotonin precursor, 50-200 mg), can help sleep. The herb valerian (200-600 mg of standardized extract) reduces anxiety and insomnia, as can other herbs, such as passion flower and hops. Timed release niacin (250-500 mg twice per day) works well to promote sleep. Magnesium (500 mg) is also a relaxant. Some combination of all these approaches should work.

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In the Health News

- Antioxidant supplements can reduce the damage from strokes. In a controlled study, 48 stroke patients received either 800 IU of vitamin E and 500 mg of vitamin C starting within 12 hours of the stroke, or no treatment. They were measured at baseline for antioxidant capacity, malondialdehyde level (MDA, a measure of oxidative damage), and CRP (a marker of inflammation). At days 7 and 14, the supplemented group had a reduction in both indicators. (Ullegaddi R, et al., Antioxidant supplementation enhances antioxidant capacity and mitigates oxidative damage following acute ischaemic stroke. *Eur J Clin Nutr.* 2005 Aug 10; [Epub ahead of print].) At 90 days after the stroke, the treatment group still had lower inflammation as indicated by the CRP level.
- Obese people have higher rates of heart disease and strokes, and they have higher levels of C-reactive protein (CRP, the inflammatory marker). New research shows that fat cells actually produce CRP, which might be part of the explanation for the increased risk. Fat cells also produce substances that increase insulin resistance. (Calabro P, et al., Release of C-reactive protein in response to inflammatory cytokines by human adipocytes: linking obesity to vascular inflammation. *J Am Coll Cardiol.* 2005 Sep 20;46(6):1112-3; reported in Reuters, September 17, 2005.)

Diet and Disease

- A vegetarian diet for 14 weeks in 32 of 64 postmenopausal women led to a significant weight loss of 13 pounds compared to an 8.3-pound loss in the 32 on the control diet. The vegetarian diet led to a higher metabolic rate and better insulin sensitivity, indicating better ability to maintain a normal blood sugar. Insulin sensitivity is associated with decreased risk of heart disease. (Barnard ND, The effects of a low-fat, plant-based dietary intervention on body weight, metabolism, and insulin sensitivity. *Am J Med.* 2005 Sep;118(9):991-7.

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Tomato Basil Soup

It is still tomato season, and this mostly-tomato soup is delicious. Sauté chopped onions and garlic in olive oil. Grill firm tomato halves (or you can buy organic, fire-roasted tomatoes from Muir Glen). Combine the tomatoes and onion mixture in a soup pot, and add a large handful of finely chopped fresh basil and freshly ground pepper (and some cayenne if you prefer a spicy soup). Simmer for a short time to allow the flavors to blend (you can add a small amount of sea salt or soy sauce, or a small amount of fresh lemon). Put the entire mixture in a food processor and blend briefly until smooth. You can vary the dish by adding some fresh, chopped spinach, and you can put in some raw diced cucumber just before serving. You can serve this hot or cold, with or without a spoonful of low-fat yogurt and a side of whole wheat toast.

From June to October, I see patients in Arlington, MA, and Amherst, NH. Call **603-878-2256**.

From November to May, I see patients in New Smyrna Beach, Florida. For appointments during this time, call **386-409-7747**. I also do phone consults.

My newest book is *The User's Guide to Heart Healthy Supplements*. You can order it from **QCI Nutritionals** at **888-922-4848**. *Dr. Janson's New Vitamin Revolution* and my other books are also available at my website, from QCI Nutritionals, or health food stores. You can visit the QCI Nutritionals website at www.qcinutritionals.com for quality supplements at reasonable prices.

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